Unintentional Poisoning Deaths
Winter 2011

Poisoning Death Rate Increasing in Montana

The national rate of unintentional poisoning deaths has increased over the last decade.[1] Unintentional poisoning occurs when a person is harmed by a substance when they did not mean to cause harm. This includes the use of drugs and chemicals for recreational purposes (e.g. unintentional overdose) and non-recreational purposes (e.g. unintentional ingestion of a drug or chemical by a small child).[2] The increase of unintentional poisoning deaths may potentially be related to an increase in the number of prescriptions and subsequent misuse of opioid analgesics,[3] including morphine, methadone, oxycodone, and codeine, among others. Though not acceptable for medical use in the United States, heroin is also an opioid analgesic.

In Montana, the rate of unintentional poisoning death has increased dramatically since 2000, although the rate leveled in 2009 (Figure 1). Since 2000, there have been twice as many unintentional poisoning deaths (n=640) as intentional poisoning deaths (n=300) (data not shown).

Figure 1. Age-adjusted rate of unintentional poisoning deaths, 2000-2009, US & Montana

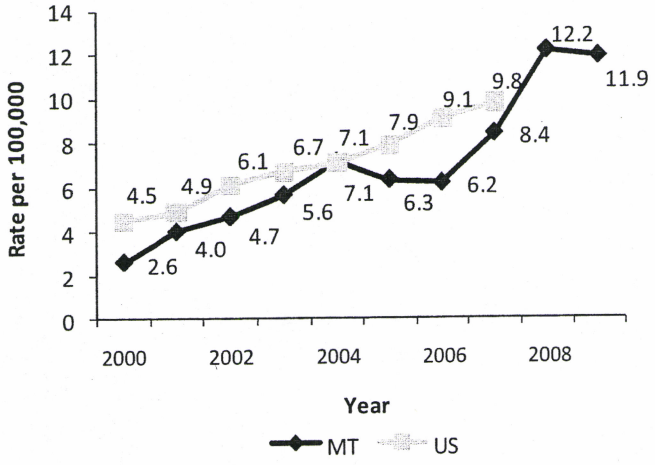
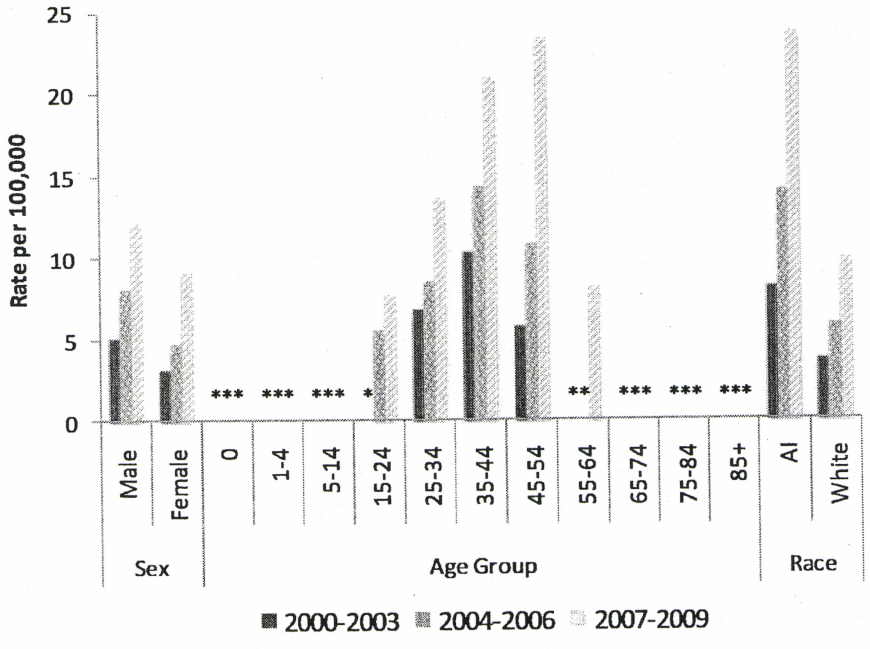


Figure 2. Unintentional poisoning deaths over time by selected characteristics, 2000-2009, Montana



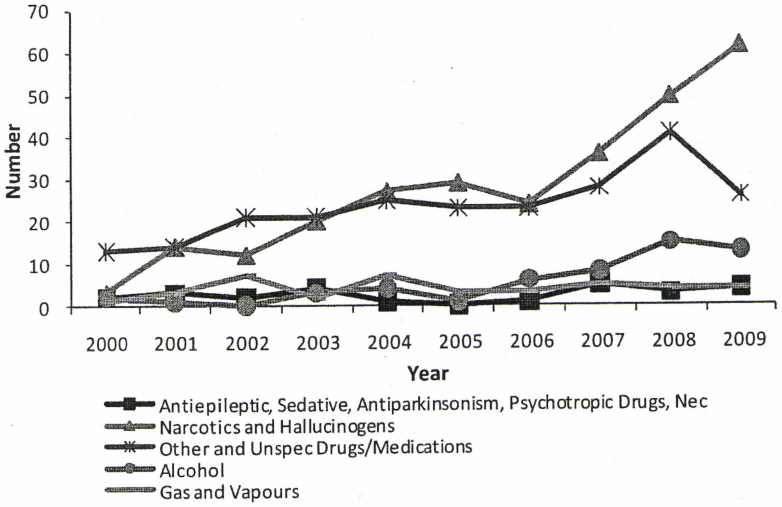
* Too few deaths to calculate a stable rate

What has been happening from 2000-2009?

- Since 2000, men have had a higher rate of unintentional poisoning death than women (Figure 2).
- The death rate for both sexes has increased over time (Figure 2).
- The unintentional poisoning death rates have increased for people aged 25-54 (Figure 2).
- The unintentional poisoning death rate has quadrupled for people aged 45-54 (Figure 2).
- The number of unintentional poisoning deaths has also increased among other age groups. (Figure 2).
- The rate of unintentional poisoning deaths has been consistently higher among American Indians than among Whites. The death rate among American Indians has been more than twice as high as Whites since 2000 (Figure 2).

Montana EMS Injury Prevention

Figure 3. Drug substance to which unintentional poisoning deaths were attributed by year of death, 2000-2009, Montana



What types of unintentional poisonings are occurring?

In 2000, 3 deaths were attributed to narcotics and hallucinogens compared to more than 60 in 2009 (Figure 3). The number of deaths due to unspecified drugs and medications also increased from 2000 to 2008, but decreased in 2009 (Figure 3). The number of deaths attributed to alcohol also increased slightly from 2000 (n=2) to 2009 (n=13). Of all deaths due to unintentional poisoning, 43% were attributed to hallucinogens and narcotics and another 8% to alcohol (Figure 4). Over 40% of deaths attributed to narcotics and hallucinogens listed methadone as a contributing factor and 33% mentioned other opioids such as codeine and morphine (Figure 5).

Figure 4. Drug substance to which unintentional poisoning deaths were attributed, 2000-2009, Montana

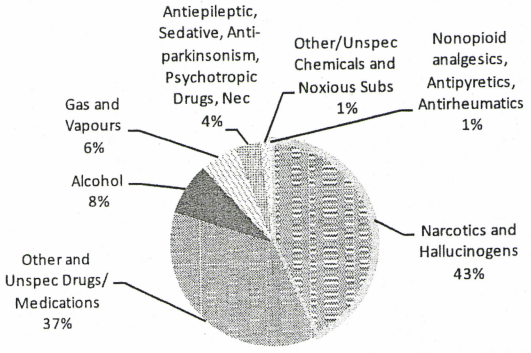
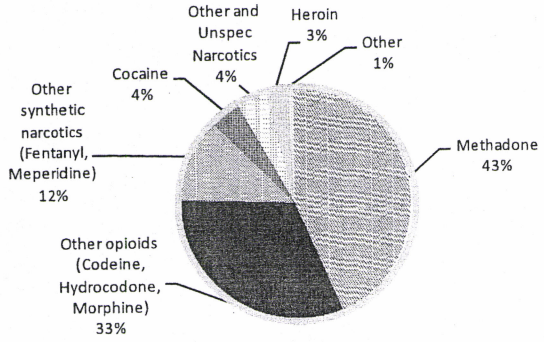


Figure 5. Contributing cause of unintentional poisoning deaths due to narcotics and hallucinogens, 2000-2009, Montana



Conclusion and Recommendations

The rate of unintentional poisoning deaths has been increasing in Montana and in the US since 2000. People aged 45-54 have had the largest rate increase and the rate has also increased dramatically for people aged 25-34 and 35-44. The marked increase in the unintentional poisoning death rate for American Indians is especially troubling. Hallucinogens and narcotics have been the most frequent cause of unintentional poisoning deaths since 2004; the majority of these deaths were attributed to specific opioids.

Important intervention steps to try to reduce the number of deaths due to unintentional poisoning in Montana include: educating and encouraging proper use of prescription drugs, promoting 'Take Back' days for people to return unused prescription drugs, and supporting poison control hotlines.

For more information contact the Montana Injury Prevention program at: bperkins@mt.gov, 406-444-4126. For information on 'Take Back' days contact the Montana Invisible Epidemic at: ssmillie@mt.gov, http://www.doj.mt.gov/rxabuse/default.asp

Methods and Limitations

The data presented in this report are from the Office of Vital Statistics death records. Only death certificates where the underlying cause of death was unintentional poisoning (ICD10 X40-X49) were included. To determine contributing causes of death, ICD10 codes T36-T65 were used. More than one code may have been listed on each certificate. Information included in these records are subject to information available at the time of death.

References:

1. Bohnert AS, Fudalej S, Ilgen MA. Increasing poisoning mortality rates in the United States, 1999-2006. *Public Health Rep.* 2010; 125:542-547.
2. Centers for Disease Control and Prevention. Poisoning in the United States: Fact Sheet. Accessed at: http://www.cdc.gov/ncipc/factsheets/poisoning.htm
3. Paulozzi L, Budnitz DS, Xi Y. Increasing deaths from opioid analgesics in the United States. *Pharmacodpidemiol Drug Saf.* 2006;15:618-627.